

## REMARKS

Claims 1-7 are currently pending, wherein claims 1-4 and 7 have been amended. Favorable reconsideration is respectfully requested in view of the remarks presented herein below.

On page 2 of the Office action (“Action”), the Examiner rejects claims 1 and 2 under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent Publication No. JP 08-119197A to Morimoto (“Morimoto”). Applicants respectfully traverse this rejection.

In order to support a rejection under 35 U.S.C. § 102, the cited reference must teach each and every claimed element. In the present case, claims 1 and 2 are patentable over Morimoto for at least the fact that Morimoto fails to disclose that the rudder angle is determined based on a deviation angle measured by a bearing sensor as claimed.

Although Morimoto discloses an automatic steering system that enables a ship to change its course to a new course smoothly so as to improve safety and reduce fuel, the rudder angle of the ship in Morimoto is not based on a deviation angle as measured by a bearing sensor. To the contrary, the rudder angle of Morimoto is calculated based on a radius error, ship turning rate, and tangential ship velocity. See Equation 1 of Morimoto. Reconsideration and withdrawal of this rejection is respectfully requested.

On page 4 of the Action, the Examiner rejects claims 3-7 under 35 U.S.C. § 103(a) as being unpatentable over Morimoto in view of U.S. Patent No. 4, 069,784 to Hedstrom et al. (“Hedstrom”). Applicants respectfully traverse this rejection.

In order to support a rejection under 35 U.S.C. § 103, the Examiner must establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness three criteria must be met. First, there must be some rationale to combine the cited references. Second, there must be a reasonable expectation of success. Finally, the combination must teach each and every claimed element. In the present case, claims 3-7 are patentable over the combination of Morimoto and Hedstrom for at least the reason that the combination fails to disclose each and every claimed element as discussed below.

As discussed above with respect to claims 1 and 2, Morimoto fails to disclose that the rudder angle is determined based on a deviation angle measured by a bearing sensor as claimed. Hedstrom discloses an automatic steering system that also enables a ship to change its course

smoothly by setting a hypothetical turning center as shown in Fig. 2 of Hedstrom. However, Hedstrom, like Morimoto, fails to disclose that the rudder angle is determined based on a deviation angle measured by a bearing sensor as claimed. Since Morimoto and Hedstrom both fail to disclose or suggest that the rudder angle is determined based on a deviation angle measured by a bearing sensor as claimed, the combination of these two reference cannot possibly disclose or suggest said element. Therefore, even if one skilled in the art were motivated to combine Morimoto and Hedstrom (which Applicants do not concede), the combination would still fail to render claims 3-7 unpatentable because the combination fails to disclose each and every claimed element.

The application is in condition for allowance. Notice of same is earnestly solicited. Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Penny Caudle Reg. No. 46,607 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

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Respectfully submitted,

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